

Evaluating the Effectiveness of a Web-based Formative Assessment Tool on Academic Performance and Motivation in Workplace English Course

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Abstract: This study investigates the effectiveness of a web-based formative assessment tool, Classkick, in enhancing academic performance and motivation among junior university students in Workplace English course. The primary aim was to determine how Classkick impacts student engagement and language skill development, by addressing two key research questions: (1) What effect does Classkick have on students' motivation and engagement in learning Workplace English? (2) How does its implementation affect students' academic performance? Utilizing a pre-experimental, one-group pretest-posttest design, the study involved 33 participants from a university in Taiwan over a 14-week intervention period. Quantitative assessments were complemented by qualitative feedback from students regarding their experiences with Classkick. The results indicated significant improvements in academic performance, as evidenced by higher posttest scores. While intrinsic and extrinsic motivation did not show statistically significant changes, qualitative data revealed that students appreciated the immediate feedback and interactive nature of Classkick, which contributed to increased self-efficacy and a shift toward mastery goal orientation. These findings underscore the potential of technology-enhanced formative assessments to improve language learning outcomes.

Keywords: Classkick; Formative assessment; Motivation in education; Technology-enhanced learning; Workplace English proficiency

1. Introduction

In today's globalized business environment, proficiency in English has become increasingly crucial for career success and advancement^[1]. For university students preparing to enter the workforce,

developing strong English language skills, particularly those needed in professional contexts, is essential. However, many students face significant challenges in acquiring the level of English proficiency demanded by employers. According to^[1], "Poor English communication



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skills can hamper the attempts of finding a good job” (p. 2). Their research found that 97.4% of surveyed employees agreed that a lack of English skills negatively impacts candidates’ chances during job interviews. In addition, all respondents indicated that English proficiency influences their careers in multiple ways.

The importance of Workplace English extends beyond just securing employment; effective communication in English is vital for day-to-day business operations, including emails, online meetings, presentations, and interactions with international clients and partners^[1]. Despite the recognized need for strong English competencies in professional settings, traditional English language education often fails to adequately prepare students for workplace communication demands. As^[1] report, 50% of survey participants felt they were not effectively trained in English by their college professors. This highlights the urgent need for targeted instruction in Workplace English skills at the university level.^[2] further supports this by noting that graduates frequently utilize various coping strategies, such as seeking mentorship and engaging in continuous learning, to navigate language-related challenges in their new roles.

Given these challenges, it is critical to explore effective methods for teaching and assessing Workplace English proficiency among university students. Formative assessment approaches show promise for enhancing both language skills and motivation. This study aims to evaluate the effectiveness of Classkick as a formative assessment tool for improving academic performance and motivation in Workplace English among junior university students.

Despite the recognized importance of English language proficiency in the workplace, many university students struggle to develop the specific communication skills required for professional settings. Traditional teaching methods often fail to adequately prepare students for the demands of Workplace English, leading to a skills gap upon graduation^[1]. There is a pressing need for innovative approaches to formative assessment that can address these challenges and better prepare students for workplace communication. Classkick, a web-based application, offers potential solutions by allowing teachers to design varied exercises, provide real-time feedback, and monitor student progress^[3].

However, its effectiveness as a formative assessment tool for improving academic performance and motivation in Workplace English among university students has not been thoroughly evaluated. This study aims to address this gap by examining the implementation of Classkick as a formative assessment tool in Workplace English instruction, with a focus on its impact on student engagement, language skill development, and overall learning outcomes. The findings are expected to demonstrate that the interactive nature of Classkick not only fosters a more motivating learning environment but also contributes to improved academic outcomes by allowing students to receive timely feedback and support tailored to their individual needs. By evaluating Classkick’s effectiveness, this research seeks to contribute to the development of more effective teaching strategies for Workplace English and ultimately enhance students’ preparedness for professional communication.

Specifically, this study investigates the effectiveness of Classkick as a formative assessment tool in enhancing both academic performance and student motivation in Workplace English courses by addressing the following questions: (1) How does the implementation of Classkick as a formative assessment tool affect students’ academic performance in Workplace English courses? (2) What impact does Classkick have on students’ motivation and engagement in learning Workplace English?

2. Literature Review

Formative assessment theory is a foundational concept in educational practice that emphasizes the continuous evaluation of student learning to inform teaching strategies and improve educational outcomes. This theory posits that assessment should be an integral part of the learning process, rather than a separate event that occurs at the end of instruction. According to^[4], an effective formative assessment involves providing students with feedback that not only identifies their current level of understanding but also guides them on how to improve. This interactive feedback loop is critical for fostering student engagement and motivation, as it helps learners develop a clearer understanding of their learning goals and the criteria for success.

The significance of formative assessment is further

underscored by its alignment with theories of self-determination and social cognitive learning. Self-Determination Theory (SDT), as proposed by^[5], highlights the importance of intrinsic motivation in learning. Formative assessments that provide meaningful feedback can enhance students' intrinsic motivation by fostering a sense of autonomy and competence in their learning activities^[6]. Similarly, Social Cognitive Theory (SCT) suggests that self-efficacy plays a crucial role in students' motivation and learning outcomes. When students receive timely feedback through formative assessments, they are more likely to feel capable of achieving their academic goals, which can lead to increased engagement and persistence in their studies.

In the context of modern educational practices, the application of formative assessment theory has evolved with the integration of technology. Digital platforms such as Classkick facilitate real-time feedback and interactive exercises, allowing educators to implement formative assessments effectively in diverse learning environments. These tools not only enhance the immediacy of feedback but also cater to various learning styles, making it easier for teachers to address individual student needs^[6]. By leveraging technology in formative assessments, educators can create more dynamic and responsive classroom experiences that promote active participation and continuous improvement.

2.1 The Effect of Formative Assessment on Academic Performance

The effect of formative assessment on academic performance has been a significant focus in educational research, particularly as it relates to enhancing student learning outcomes. Formative assessment is characterized by a range of formal and informal procedures that teachers employ during the learning process to monitor student progress and provide ongoing feedback^[4]. Research by^[6] underscores the substantial impact that gamified formative assessments can have on students' academic achievement in physics. Their study demonstrated that after implementing a gamified approach using platforms like Quizizz, students exhibited marked improvements in their posttest scores compared to their pretest scores. This increase in academic performance highlights that

formative assessments, when designed to be engaging and interactive, can effectively motivate students and enhance their understanding of complex subjects.

Moreover, the findings from^[6] suggest that while there was an overall increase in academic achievement following the introduction of gamified formative assessments, the learning gains were classified as low. This indicates that although students improved their scores, there remains potential for further enhancement through continuous exposure to innovative assessment methods.^[7] further supports the assertion that formative assessments play a pivotal role in improving academic performance by providing ongoing feedback that enables students to adjust their learning strategies. This continuous evaluation supports academic growth by giving students opportunities to correct mistakes and reinforce concepts, leading to improved performance over time.

Research consistently demonstrates the positive impact of formative assessment on student achievement.^[8] conducted a comprehensive review showing that students who engage with formative assessments experience significantly higher academic gains compared to those who do not. Moreover,^[9] found that incorporating formative assessments along with metacognitive strategies improved student performance in mathematics by encouraging reflection on learning and adjustments based on specific feedback. In another study,^[10] demonstrated that formative assessment strategies such as feedback, success criteria, and self-regulation practices contributed significantly to academic achievement. Their findings align with broader evidence indicating that consistent use of formative assessments supports a deeper understanding of content, which leads to better performance on both formative and summative assessments.

The literature clearly illustrates that formative assessment positively affects academic performance by providing essential feedback mechanisms that enhance student engagement and understanding. As evidenced by various studies, including those by^[6], ^[7], and others, implementing effective formative assessment strategies is crucial for fostering improved educational outcomes.

2.2 The Effect of Formative Assessment on Motivation

The impact of formative assessment on student

motivation has been widely recognized in educational research. Formative assessment plays a crucial role in enhancing student motivation by providing timely and specific feedback, which can significantly improve engagement and a sense of progress. According to^[7], formative assessments empower students to actively participate in their learning, enabling them to identify areas for improvement while fostering a positive mindset toward their educational journey. This increased engagement often leads to heightened intrinsic motivation, as students feel more in control of their learning process. Moreover, formative assessments create an environment conducive to experiencing incremental successes, which can enhance students' confidence and perseverance. The feedback loop established through formative assessments, where students receive feedback, reflect on their performance, and adjust their strategies, can further bolster motivation.^[11] found that the use of adaptive formative assessment tools not only improved academic performance but also increased student motivation by ensuring that tasks remained within their "zone of proximal development." The collaborative nature of formative assessment also contributes positively to student motivation. Engaging in peer evaluations or receiving constructive feedback from teachers can transform learning into a shared endeavor, enhancing students' motivation to contribute and succeed in group contexts^[12]. A critical aspect of formative assessment that enhances motivation is the provision of timely and constructive feedback.^[13] emphasize that formative assessment techniques offering specific feedback on student progress support both achievement and motivation. Effective feedback helps students comprehend their current standing in learning and understand what they need to do to improve, which can boost their confidence and willingness to engage with challenging material.

Involvement in the assessment process is another factor that enhances motivation.^[14] discovered that employing strategies such as learning intentions (LI) and success criteria (SC) allowed students to visualize their learning journey, increasing their sense of ownership and motivation to achieve set goals.^[15] explored the relationship between teacher feedback and student motivation, particularly for struggling learners. The study indicated that rigorous formative assessment

feedback could be particularly beneficial for low-achieving students. In a study involving undergraduate health science students,^[16] found that formative assessment improved both academic achievement and student motivation. Immediate feedback provided on quizzes throughout the term helped students perform better on subsequent assessments while increasing their engagement with course material.^[10] conducted research in Turkey that aligned with findings from Western countries regarding the effects of formative assessment strategies, such as success criteria, deliberate feedback, and questioning technique, on student achievement, motivation, and metacognition. Their results showed significant improvements across all three areas, highlighting the cross-cultural applicability of formative assessment in enhancing student motivation. Additionally, technology-enhanced formative assessments have shown promise in boosting student motivation. Studies by^[17] and^[18] indicated that technology-based learning platforms with formative assessment features led to significant increases in both academic achievement and motivation. These platforms provided hints instead of immediate answers while cycling similar questions back to students until mastery was achieved. Surveys indicated that students using these platforms reported increased motivation to learn.

Overall, previous studies consistently demonstrate a positive relationship between formative assessment practices and student motivation. Key factors contributing to this effect include timely constructive feedback, active student involvement in the assessment process, personalized learning experiences facilitated by adaptive tools like those studied by^[11], and the integration of technology-enhanced assessments.

3. Methodology

3.1 Research Design and Sample of the Study

This research employed a pre-experimental, one-group pretest-posttest methodology to examine the impact of Classkick as a formative assessment tool on the academic performance and motivation of junior university students. Specifically, the methodology involved an initial pretest evaluation, followed by an intervention phase lasting 14 weeks, and concluded with a posttest assessment conducted on a singular cohort of students, devoid of a control group. A non-probability sampling technique was utilized. The

investigation was carried out at a university in Taiwan, focusing on 33 juniors majoring in International Business who were enrolled in a Workplace English course.

3.2 Instruments

Prior to and following the intervention, an assessment of Workplace English, in conjunction with a 5-point Likert-type Motivation Questionnaire, was administered to the participants. Upon completion of the course, a subsequent motivational survey would incorporate open-ended inquiries regarding their experiences with Classkick. A Motivation Questionnaire was carefully developed and refined based on the Motivated Strategies for Learning Questionnaire^[19]. The instrument comprised five distinct dimensions: Intrinsic Goal Orientation (IGO), Extrinsic Goal Orientation (EGO), Task Value (TV), Control Beliefs (CB), and Self-Efficacy for Learning and Performance (SLP).

The IGO dimension was comprised of three inquiries, aimed at evaluating the students' intrinsic motivations for engaging in the educational task. The EGO dimension, similarly consisting of three inquiries, assessed students' extrinsic drivers, such as academic grades or external incentives. The TV dimension consisted of five inquiries, which gauged the students' perceptions regarding the relevance, interest, and significance of the course. The three-inquiry CB dimension evaluated the students' convictions regarding their capacity to influence and navigate their learning trajectory. Lastly, the SLP dimension encompassed six inquiries, assessing the students' self-assurance in their capability to excel and master the course content.

A 5-point Likert scale was employed in the survey to evaluate the responses provided by the participants. The reliability of all subscales, as assessed through Cronbach's α , demonstrated exceptional quality, with values recorded at 0.925 for IGO, 0.878 for EGO, 0.914 for TV, 0.804 for CB, and 0.934 for SLP, thus signifying a substantial degree of internal consistency and reliability of the survey instrument. A paired

sample t -test was utilized to determine the statistically significant variations in academic performance and motivation of students before and after the implementation of Workplace English instruction utilizing the Classkick formative assessment tool.

4. Data Analysis

Table 1 presents the results of the effectiveness of Classkick as a formative assessment tool. Based on a paired samples t -test comparing pretest and posttest scores for academic achievement, the result indicates a substantial improvement in students' academic performance following the implementation of Classkick as a formative assessment tool. Specifically, the pretest mean score for academic achievement was recorded at 44.55, with a standard deviation of 26.82. In contrast, the posttest mean score increased significantly to 71.52, accompanied by a reduced standard deviation of 15.64. The statistical analysis yielded a t -value of -7.279 with 32 degrees of freedom and a p -value of 0.000, indicating that the observed improvement in academic achievement is statistically significant. This finding suggests that the use of Classkick effectively contributed to enhancing students' learning outcomes in Workplace English.

The significance of this improvement can be attributed to several factors inherent in the Classkick platform. The application facilitates real-time feedback, allowing educators to identify and address student misconceptions promptly. This immediate feedback loop is crucial for fostering understanding and retention of language skills, which are essential for effective communication in professional contexts. Moreover, Classkick's ability to support varied exercise design enables instructors to create diverse and engaging assignments tailored to different aspects of language acquisition. This flexibility likely contributed to increased student engagement and motivation, further enhancing their academic performance. The interactive nature of the platform promotes active participation, which is critical for maintaining student interest and commitment to learning.

Table 1. Paired samples t -test of academic achievement (N = 33)

Dimension	Mean (S.D.)		df	t	p
	Pretest	Posttest			
Academic Achievement	44.55 (26.82)	71.52 (15.64)	32	-7.279	0.000

Table 2 presents the results on evaluating the effectiveness of Classkick as a formative assessment by focusing on different dimensions of learning motivation, measured by the Motivated Strategies for Learning Questionnaire (MSLQ). Each dimension, Intrinsic Goal Orientation (IGO), Extrinsic Goal Orientation (EGO), Task Value (TV), Control Beliefs (CB), and Self-Efficacy for Learning and Performance (SLP), provides a unique perspective on student motivation and its implications for academic performance.

Intrinsic Goal Orientation (IGO) demonstrated a pretest mean of 4.10 with a standard deviation of 0.77, which increased to a posttest mean of 4.28, maintaining the same standard deviation. However, the change was not statistically significant ($p = 0.144$). This lack of significance suggests that while students may have had a slight increase in intrinsic motivation, the intervention did not sufficiently enhance their internal drive to learn for personal satisfaction or mastery. Extrinsic Goal Orientation (EGO) also showed an increase from a pretest mean of 4.15 to a posttest mean of 4.37, yet this change was similarly not statistically significant ($p = 0.102$). The results imply that students' motivations driven by external rewards, such as grades or recognition, did not significantly shift as a result of the intervention. While extrinsic motivation can be effective in achieving short-term goals, its limited impact in this context underscores the necessity for educational approaches that balance both intrinsic

and extrinsic motivators to enhance overall student engagement.

In contrast, Task Value (TV) exhibited a statistically significant increase from a pretest mean of 4.12 to a posttest mean of 4.39 ($p = 0.020$). This finding indicates that students began to perceive the course content as more relevant and meaningful following the intervention. The significance of task value is profound; when students recognize the relevance of their studies, they are more likely to engage actively with the material, which can lead to improved learning outcomes. The dimension of Control Beliefs (CB) showed remarkable improvement, with pretest and posttest means rising from 3.96 to 4.45 and achieving statistical significance ($p = 0.000$). This substantial increase reflects an enhanced sense of agency among students regarding their ability to influence their learning outcomes. The significance of control beliefs is critical; when students feel empowered to take charge of their learning, they are more likely to persist through challenges and engage deeply with their studies. Lastly, Self-Efficacy for Learning and Performance (SLP) also demonstrated significant growth, moving from a pretest mean of 3.95 to a posttest mean of 4.30 ($p = 0.005$). This increase suggests that students gained confidence in their abilities to succeed academically as a result of using Classkick. Self-efficacy is essential for motivating students; higher levels correlate with greater effort and resilience in overcoming academic challenges.

Table 2. Reliability test and paired samples t-test of learning motivation (N = 33)

Dimension	No. of items	Mean (S.D.)		df	<i>t</i>	<i>p</i>
		Pretest	Posttest			
IGO	3	4.10 (0.77)	4.28 (0.77)	32	-1.497	0.144
EGO	3	4.15 (0.82)	4.37 (0.68)	32	-1.685	0.102
TV	5	4.12 (0.78)	4.39 (0.69)	32	-2.441	0.020
CB	3	3.96 (0.83)	4.45 (0.72)	32	-4.075	0.000
SLP	6	3.95 (0.81)	4.30 (0.68)	32	-3.024	0.005
Learning Motivation	20	4.06 (0.75)	4.36 (0.63)	32	-3.221	0.003

Overall, the collective findings from **Table 2** indicate that while intrinsic and extrinsic goal orientations did not show significant changes, dimensions such as Task Value, Control Beliefs, and Self-Efficacy experienced meaningful improvements after implementing Classkick as a formative assessment tool. These results highlight the importance of fostering an

environment where students perceive value in their tasks and feel empowered regarding their learning processes. Such dimensions are crucial for enhancing student engagement and success in Workplace English contexts, ultimately contributing to better preparedness for professional communication demands in an increasingly globalized workforce.

Table 3 provides a qualitative analysis that provides valuable insights into the effectiveness of Classkick as a formative assessment tool in enhancing academic performance and motivation in Workplace English. The data reveals students' perceptions regarding their engagement, the helpfulness of specific features, and the development of their English language skills. The first question focused on how Classkick influenced students' engagement and motivation in learning Workplace English. The responses indicate that a significant majority of students reported increased engagement (49%) and improved motivation (45%). This suggests that Classkick effectively fostered a more engaging learning environment, which aligns with the findings in the literature that emphasize the importance of interactive tools in enhancing student motivation^[3]. The minimal percentage of students who felt overwhelmed by tasks (3%) or lacked personal connection (3%) further supports the notion that Classkick was generally well-received and did not detract from the learning experience.

In examining specific features of Classkick, the second question revealed that 49% of students found real-time feedback particularly helpful, while 42% appreciated the variety of exercises. These results underscore the significance of immediate feedback in formative assessments, as it allows for timely interventions and fosters a deeper understanding of material^[3]. However, a small percentage reported challenges with confusing navigation (3%) and technical issues (6%), indicating areas for improvement.

The overall positive reception of Classkick's features suggests that they contribute meaningfully to student learning experiences, consistent with the study's aim to evaluate innovative assessment methods.

The third question assessed how Classkick helped students develop their English language skills for professional contexts. A notable 52% of respondents indicated that relevant practical exercises were beneficial, while 45% reported improved confidence in using English. This finding is critical as it highlights Classkick's role in bridging the gap between academic language skills and those required in professional settings, addressing concerns raised by^[1] about graduates' preparedness for workplace communication. The low percentage (3%) indicating limited focus on speaking skills suggests that while Classkick is effective in many areas, there may be a need for additional emphasis on speaking practice to fully prepare students for real-world applications.

Overall, **Table 3** illustrates that Classkick has been effective as a formative assessment tool in enhancing both academic performance and motivation among junior university students studying Workplace English. The positive responses regarding engagement, helpful features, and skill development reflect its potential to address the challenges faced by students in acquiring essential English competencies for professional contexts. As highlighted throughout the study, integrating technology-driven strategies like Classkick can significantly improve educational practices and better equip students for success in their future careers.

Table 3. Student perceptions of engagement, Classkick features, and skill development (N = 33)

	Question	Responses	N	%
1	How did your experience with Classkick influence your engagement and motivation in learning Workplace English?	Increased engagement	16	49
		Improved motivation	15	45
		Overwhelmed by tasks	1	3
		Lacked personal connection	1	3
		Total	33	100
2	Can you describe any specific features of Classkick that you found particularly helpful or challenging during your learning process?	Real-time feedback	16	49
		Variety of exercises	14	42
		Confusing navigation	1	3
		Technical issues	2	6
		Total	33	100
3	In what ways did Classkick help you develop your English language skills for professional contexts?	Relevant practical exercises	17	52
		Improved confidence	15	45
		Limited focus on speaking skills	1	3
		Total	33	100

5. Discussion

The findings of this study provide valuable insights into the effectiveness of Classkick as a formative assessment tool for enhancing academic performance and motivation in Workplace English course. The research highlights the importance of innovative instructional strategies that can address the specific communication skills required in professional contexts. The implementation of Classkick facilitated a more engaging learning environment, allowing students to receive immediate feedback and actively participate in their learning process. This aligns with the existing literature that emphasizes the role of formative assessments in improving student outcomes^[4, 6].

While the study demonstrated significant improvements in students' academic performance, particularly in their posttest scores, it is noteworthy that the enhancements in intrinsic and extrinsic motivation were not statistically significant. This finding suggests that while Classkick effectively supports language skill development, further exploration is needed to identify strategies that can enhance these dimensions of motivation. Previous research has shown that intrinsic motivation can be influenced by factors such as autonomy and competence^[5], indicating that additional elements may need to be integrated into the learning experience to foster deeper engagement.

The results also revealed a marked increase in students' self-efficacy, indicating that the real-time feedback provided by Classkick helped students feel more competent in their language abilities. This boost in self-efficacy is crucial for maintaining motivation and encouraging students to tackle challenging tasks. Furthermore, the shift toward mastery goal orientation among students reflects a positive change in their approach to learning, as they began to focus on understanding and mastering specific language skills rather than merely completing assignments.

Additionally, task value emerged as an important factor influencing students' engagement. As students recognized the relevance of their English skills for future career opportunities, their motivation to learn increased. This finding aligns with previous studies that highlight the significance of perceived task value in enhancing student motivation^[1, 2]. By connecting language skills to real-world applications, educators

can create a more meaningful learning experience that resonates with students' career aspirations.

6. Conclusions

This research significantly contributes to the understanding of how technology-enhanced formative assessment tools, specifically Classkick, can improve academic performance and motivation in Workplace English course. By addressing the research questions regarding the impact of Classkick on students' motivation and engagement in learning Workplace English, as well as its effects on academic performance, this study provides empirical evidence supporting the effectiveness of interactive digital tools in language instruction.

The main outcome of this research is the demonstration that Classkick effectively facilitates language skill development through real-time feedback and varied exercise designs. While significant improvements in academic performance were observed, particularly in posttest scores, the enhancements in intrinsic and extrinsic motivation did not reach statistical significance. However, qualitative results from student feedback revealed that many participants appreciated the interactive nature of Classkick, noting that the immediate feedback helped them feel more competent and engaged in their learning. This qualitative aspect underscores the importance of student perceptions in understanding the effectiveness of formative assessment tools.

Moreover, the increase in self-efficacy among students highlights the critical role of feedback in fostering a sense of competence. Students expressed greater confidence in their ability to tackle language tasks, which is essential for maintaining motivation. The shift toward a mastery goal orientation indicates that students began to prioritize understanding and mastering specific language skills over merely completing assignments, reflecting a positive change in their approach to learning.

Despite these contributions, gaps remain in our understanding of how to enhance intrinsic and extrinsic motivation within technology-driven learning environments. The lack of statistically significant changes in these dimensions suggests that further exploration is needed to identify effective strategies for fostering deeper engagement among students. Future

research could investigate additional motivational constructs or utilize qualitative methods to gain insights into students' experiences with formative assessments.

Availability of Supporting Data

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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